

Notes on a Collection of Fishes made by Prof. Ijima in the Southern Parts of Sakhalin.

BY

Shigeho Tanaka, *Rigakushi*.

Zoological Institute, Science College, Imperial University of Tokyo.

(With Pl. IX.)

The fishes collected by Professor Ijima and his party in the southern parts of Sakhalin during May to September 1906, was kindly placed at my disposal for study. I now beg to report on it.

The collection was done principally in the following localities: Korsakoff; Pervaya, Ftaraya and Tretiya Padj on the coast along the Lososei Bay; the Susuya River; Vladimirofka and Troitskoe in the interior; Chipesani Village, Lake Chipesani and Lake Busse along the northeast of Aniwa Bay; Nayoro, Seraroko and Airop on the eastern coast.

I have referred the specimens to sixty-three species. Most of them are subarctic forms, of which only a few are those that occur also in middle Japan. Two species in the collection I have considered to be new to science and shall propose to call *Porocottus nigrescens* and *P. ijimai*.

Family Petromyzonidæ.

1. *Lampetra mitsukurii* (Hatta).

A single specimen, 12 cm. long, obtained at Tretiya Padj (July 14).

According to Berg,^(a) *Lampetra fluviatilis* (Linné) is found in Sakhalin. The specimen before me seems to be nearer to *L. mitsukurii* rather than to *L. fluviatilis*, although it is too young to admit of accurate identification.

a) Zool. Zentralblatt, Bd. 14, No. 5, 1907, p. 149.

Family Squalidæ.

2. *Squalus mitsukurii* Jordan and Snyder.

Two specimens, from off Korsakoff (Aug. 19).

The origin of the first dorsal spine is a trifle nearer that of the second dorsal than the tip of the snout. The relative position of these three parts as given in the original description of Jordan and Snyder^{a)} does not agree with that seen in the specimens before me, but these totally well with the figure given by the said authors.

Family Cobitidæ.

3. *Orthrias oreas* Jordan and Fowler.

Numerous specimens from Chipesani (July 28; Aug. 23); Vladimirofka (June 6; June 8) and Troitskoe (June 8).

The labels attached to the specimens bear the name Dojō, a name which in Japan proper is applied to *Misgurnus anguillicaudatus* (Cantor).

Family Cyprinidæ.

4. *Leuciscus hakuensis* Günther.

Numerous specimens from Chipesani (July 28—Aug. 23); mouth of the Susuya River (May 15); Lososei Bay (May 25).

Scales 15 to 16—80—14 to 15.

5. *Leuciscus jouyi* Jordan and Snyder.

Loc. Jap. name: Yachi ugui, Aburako, Aburako uwo.

Numerous specimens from Vladimirofka (June 6; June 8); Troitskoe (June 8); the Susuya River (June 3).

Coloration variable, mottled with dark. Ground color very dark in some specimens, but in others gray and scarcely showing mottlings.

a) Jordan and Snyder, Ann. Zool. Jap., vol. III, pt. III, Check List Jap., 1901, p. 129; name only—Jordan and Fowler, Proc. U.S. Nat. Mus., vol. XXVI, 1903, pp. 629—630, fig. (Jordan and Snyder MS.).

Family Clupeidæ.

6. *Clupea pallasii* Cuvier and Valenciennes.

Loc. Jap. name : Konishin (meaning little herring).

Numerous specimens from Chipesani (July 31) and Aniwa Bay.

D. 18 to 20, A. 16 to 17.

Family Salmonidæ.

7. *Oncorhynchus gorbuscha* (Walbaum).

Loc. Jap. name : Masu.

Numerous specimens from Chipesani (July 25—Aug. 22) and Lake Busse (July 9; Aug. 9).

8. *Oncorhynchus milktschitch* (Walbaum).

Five specimens from Lake Chipesani (Aug. 16; Aug. 22) and Lososei Bay (Sept. 12).

9. *Salvelinus malma* Walbaum.

Loc. Jap. name : Ame masu, Yamabe.

Numerous specimens from Lake Chipesani (July 28); Vladimirofka (June 3—8); Troitskoe (June 3—8); mouth of the Susuya River (May 15; May 22); Tretiya Padj (June 17); Lake Busse (Aug. 9); Lososei Bay (June 15).

Very closely allied to the species are *Salvelinus pluvius* Hilgendorf and *S. kundscha* (Pallas). The three forms here referred to are said to differ from one another in the size of the whitish spots on body, in the size of mouth and in some other trifling characters. Besides, different ranges have been given to their distribution^{a)}; *S. malma* thriving in Alaska and Kamtschatka and extending through the Kuriles to Okhotsk Sea; *S. kundscha* being common in the streams of Kamtschatka; and *S. pluvius* living in all parts of Japan proper. However, the resemblance of the three forms is so great that their specific distinction seems to be

a) Jordan and Snyder, Proc. U.S. Nat. Mus., vol. XXIV, 1902, pp. 532—584.

scarcely practicable as was pointed out by Mr. Kitahara^{a)} and later by Dr. Jordan.^{b)}

A specimen, 8.6 cm. long without caudal, has brown ground color, some 12 darker charr marks a little narrower than orbit and 4 or 5 rows of clear-cut whitish spots much smaller than pupil, agreeing in these respects with *S. malma*^{c)} as described by Jordan and Snyder.

10. *Salmo perryi* Brevoort.

Loc. Jap. name : Iwana uwo, Yamabe.

Numerous specimens from Vladimirofka (June 3 ; June 6) ; Troitskoe (June 3) ; Tretiya Padj (June 17) ; Lake Chipesani (Aug. 16 ; Aug. 22).

11. *Hucho blackistoni* (Hilgendorf).

Loc. Jap. name : Ito.

Six specimens from the mouth of the Susuya River (May 15).

Family *Argentinidae*.

12. *Osmerus dentex* Steindachner.

Loc. Jap. name : Kiuri.

Numerous specimens from the mouth of the Susuya River (May 15), Pervaya Padj (June 17) and Lososei Bay (May. 23 ; June 15 ; June 19).

13. *Mesopus olidus* (Pallas).

Loc. Jap. name : Chika.

Numerous specimens from a point 25 hiro deep off Chipesani (July 28 ; Aug. 30), Lake Chipesani (July 28. Aug. 23), mouth of the Susuya River (May 15 ; May 22) and Pervaya Padj (June 17).

Specimen.	A.	B.	C.	D.
D.	9	9	10	10
A.	19	17	15	18

a) Kitahara, Ann. Zool. Jap., vol. V, pt. III, 1904, p. 120.

b) Jordan, Ann. Zool. Jap., vol V, pt. IV, 1905, pp. 161—162.

c) Jordan and Snyder, Proc. U.S. Nat. Mus., vol. XXIV, 1902, pp. 583—584.

Family *Argentinidæ*.14. *Salanx microdon* Bleeker.

Numerous specimens. Exact locality not given on the label.

D. 13. A. 21.

Family *Gasterosteidæ*.15. *Gasterosteus cataphractus* (Pallas).

Loc. Jap. name : Hari uwo.

Numerous specimens from the mouth of the Susuya River (May 15—22) and Lososei Bay (June 21—23).

The lateral armature is complete, the plates growing gradually smaller posteriorly and forming a distinct caudal keel. In this respect the specimens greatly resemble those from Kanazawa in the Province of Kaga and from Akkeshi in the Hokkaido, but differ from those from Imajiku in the Province of Ōmi and from Kanō in the Province of Mino. In the specimens from the two last mentioned localities the plates are altogether absent.

16. *Pygosteus tymensis* (Nikolsky).

Loc. Jap. name : Hari uwo.

Numerous specimens from Lake Chipesani (July 28) and Chipesani (Aug. 23).

D. IX. to XI. Dorsal spines low, ventral spine short. In some specimens having 9 dorsal spines, the ventral spine is much longer and is contained $2\frac{4}{5}$ in length of head, these specimens not differing otherwise from the rest.

Family *Scombridæ*.17. *Scomber colias* Gmelin.

Loc. Jap. name : Saba.

One specimen from Chipesani (July 25).

Total length without caudal 35 cm.; head 9.1 cm.; height of body 7.4 cm.; snout 2.7 cm. D. XI—12—I—I—I—I; A. I—12—I—I—I—I; V. I, 5; P. 19 to 20. Without air bladder.

Family Scorpænidæ.

18. *Sebastes taczanowskii* (Steindachner).

Four specimens from Korsakoff and Chipesani (Aug. 1).

19. *Sebastes glaucus* (Hilgendorf).

One specimen from Airop (June 17).

Family Hexagrammidæ.

20. *Hexagrammos octogrammus* (Pallas).

Loc. Jap. name : Robukubokke.

Numerous specimens from Chipesani (Aug. 1).

21. *Hexagrammos lagocephalus* (Pallas).

Two specimens from Airop (June 17).

22. *Hexagrammos otakii* Jordan and Starks.

Two specimens from Airop (June 17) and Lososei Bay (May 25).

The species is the commonest *Hexagrammos* occurring along the coasts of Japan.

23. *Pleurogrammus monopterygius* (Pallas).

Numerous specimens from Chipesani (July 31).

The specimens have the ventrals a little shorter and the body a little slenderer in comparison with *Pleurogrammus monopterygius* as described in Jordan and Evermann's Fish of North America^{a)}, but I can not draw up a clear distinction.

a) Jordan and Evermann, Fish. North and Middle America, pt. II, 1898, pp. 1864—1866.

Family Cottidæ.

24. *Porocottus nigrescens*, n. sp.

(Pl. IX, figs. 1 & 2).

One specimen. Exact locality not given. Head (measured to tip of opercular flap) $2\frac{1}{2}$ in total length without caudal; height of body $5\frac{1}{2}$; eye $5\frac{5}{7}$ in head; interorbital $5\frac{2}{3}$; snout $4\frac{2}{3}$; maxillary $2\frac{1}{3}$; first spine of first dorsal $3\frac{2}{3}$; third spine $3\frac{1}{3}$; penultimate spine $4\frac{2}{3}$; last spine $8\frac{1}{10}$; first ray of second dorsal $16\frac{1}{3}$; second ray $2\frac{8}{9}$; third ray $2\frac{1}{3}$; sixth and seventh ray 2 each; thirteenth ray $2\frac{2}{3}$; penultimate ray $4\frac{1}{4}$; last ray $4\frac{1}{2}$; first ray of anal $4\frac{1}{2}$; second ray $3\frac{6}{7}$; seventh and eighth ray each $2\frac{2}{3}$; penultimate ray $3\frac{1}{3}$; last ray about 4; pectoral $1\frac{1}{2}$; ventral 2, first preopercular spine $6\frac{3}{4}$; height of caudal peduncle $8\frac{1}{10}$. D. VIII—15; A. 12; P. 16 to 17; V. I. 3; C. (excluding rudimentary rays) 13; B. 6; L. lat. 38.

Body moderately long, not compressed; caudal peduncle a little compressed. Head a little depressed, the sides slightly forming an angle with the top. Postorbital part contained $1\frac{2}{3}$ times in length of snout and eye. Eye moderate, lateral, high up; interorbital rather wide, slightly concave. Mouth wide, the lower jaw a little projecting. Teeth small, conical, in rather wide bands on jaws and vomer, none on palatines; the band on the upper jaw widened anteriorly, but that on the lower jaw nearly not widened. The band on vomer strongly curved, the greatest width across equal to vertical diameter of the eye, but a little shorter than its horizontal diameter. Maxillary extending a little past vertical from postorbital rim. Both pairs of nostrils forming each a short tube; nasal spine distinct. No supraocular spine nor postorbital cirrhi. Postorbital ridges, originating immediately behind eyes, gently converge behind and bend abruptly outward at a point halfway between the postorbital rim and the end of opercular flap. Outside of the ridges exists a less distinct ridge as usual. First preopercular spine curved very slightly upward, extending to a point slightly past one-third the length of its origin and the end of opercular flap; second preopercular spine two-thirds the first one,

directed a little downward. Third spine directed downward, and fourth spine downward and forward, both these two spines being entirely concealed in the skin. Suborbital stay distinct, not projecting out in a spine. Post-temporal spine and opercular spine end at almost the same vertical, not reaching to the end of opercular flap. Humeral spine in a line with the opercular one, projecting a little out of skin. Lower end of subopercle and upper end of interopercle each with a sharp spine, their end converging and nearly touching; the upper one pointed downward and backward, the lower one upward and backward.

Gill-membranes confluent, forming a rather broad fold across the isthmus; gill-rakes on the first gill-arch 2+8, stumpy. No slit behind last gill.

Top of head covered with hard warts, becoming a little less warty on the sides; no plates on head. Skin of body with some scattered, rough tubercles, arranged in some two or three longitudinal rows; those converge backward, and unite into a single row in the posterior part and then this continues on to near caudal base. Lateral line complete, with small concealed scales. Skin below the lateral line a little or not at all scaly.

Dorsal spines rather low, the membrane between spines scalloped, but its outer margin rounded in general contour; tips of the spines scarcely reaching origin of soft dorsal when depressed. Soft dorsal high, the membrane between the rays scalloped, but its outer margin rounded in general contour; tips of rays extending a little beyond the origin of uppermost ray of caudal. Anal originating below fourth dorsal ray, the rays a little lower than dorsal rays; the membrane between rays incised but its outer margin rounded in general contour; last ray originating a little before last ray of dorsal; tip of longest rays falling far before caudal base. Membranes behind last rays of dorsal and anal adnate to body. Pectoral nearly not reaching anal; its posterior margin rounded; the lower rays procurent. Ventral extending four-sevenths the distance between its origin and anal. Posterior margin of caudal a little rounded when spread out, nearly truncate when closed.

Color in formalin brownish above and on the sides, whitish beneath.

Head darker, without markings; lips and maxillary dusky; membrane joining premaxillary to maxillary whitish, without marking. Chin whitish, growing darker toward anterior end.

The type, the only existing specimen, was obtained in the southern part of Sakhalin. It bears the number 1387 in the museum of the Zoological Institute.

Measurements of the species (in cm.)

Total length without caudal	21.0
Head	8.1
Height of body	3.8
Height of caudal peduncle	1.0
Horizontal diameter of eye	1.4
Interorbital	1.5
Snout	1.7
Maxillary	3.5
First preopercular spine	1.2
Second preopercular spine	0.8
First spine of first dorsal	2.2
Third spine of first dorsal	2.6
Penultimate spine of first dorsal	1.7
Last spine of first dorsal	1.0
First ray of second dorsal	0.5

Second ray of second dorsal	2.8
Third ray of second dorsal	3.9
Sixth and seventh ray of second dorsal each... ..	4.2
Thirteenth ray of second dorsal	3.1
Penultimate ray of second dorsal	1.9
Last ray of second dorsal... ..	1.8
First ray of anal	1.8
Second ray of anal	2.1
Seventh and eighth ray of anal, each	3.0
Penultimate ray of anal	2.6
Last ray of anal	2.2
Pectoral	5.4
Ventral	4.0

25. *Porocottus ijimai*, n. sp.

(Pl. IX., Figs. 3 & 4).

Loc. Jap. name: Kazika.

Four specimens from the mouth of the Susuya River (May 15) and from off Chipesani (Aug. 15).

Head (measured to tip of opercular flap) $3\frac{1}{5}$ in total length without caudal; height of body $4\frac{1}{2}$; eye $4\frac{1}{3}$ in head; interorbital $4\frac{1}{2}$; snout $4\frac{1}{3}$; first preopercular spine 6. D. VIII to X—13 to 14; A. 12 to 13; P. 16 to 17; V. I, 3; B. 6; L. lat. 36.

Body rather elongate, slightly compressed, tapering rapidly behind the insertion of first dorsal; caudal peduncle slender, compressed; body widest at the angles formed by the origins of two uppermost preopercular

spines. Head much depressed; eye moderate, directed slightly upward. Interorbital rather wide, slightly concave, without ridges. Mouth large, horizontal; jaws subequal. Conical teeth in rather wide bands on jaws and vomer; none on palatines. The band on the vomer curved, its greatest width a little less than horizontal diameter of eye. The band on the upper jaw widened anteriorly, but on the lower jaw nearly not widened. Maxillary extending to below postorbital rim. Nostrils each on a short tube. Nasal spine rather sharp; no suborbital spine. Postorbital spine with a very small flap, sometimes absent. Postorbital ridges somewhat converge posteriorly, abruptly bending near the end; a shorter ridge outside of them as usual. 4 preopercular spines; the first one rather long, curved a little upward; the second one directed outward and backward, two-thirds the upper one in length; the two lower ones concealed in the skin. Suborbital stay distinct, without spines. Post-temporal spine and upper opercular spine distinct, ending at the same vertical. Opercular spines 2, the lower one shorter than the upper. Humeral spine distinct. Subopercle spine and interopercle spine concealed in the skin as in *Porocottus nigrescens*. Gill-membranes confluent, forming a narrow fold across the isthmus. Gill-rakers on the first gill-arch 2+6 to 7, stumpy. No slit behind last gill.

Top of head sparsely beset with hard warts, the sides scarcely warty. No plates on head. Skin of body with some scattered rough tubercles, arranged in some two or three longitudinal rows; these rows converge posteriorly, unite into a single row on the posterior part and end near caudal base. Below lateral line very few scales or none. Lateral line complete, with small concealed scales in the anterior part.

In male, first dorsal separated slightly from second dorsal, the spines nearly reaching origin of second dorsal when depressed; the spines flexible, high, the longest spines about 2 in head; the membrane scalloped between spines, the outer margin rounded in general contour, adnate to body behind the last spine. Second dorsal very high, the longest rays a little longer than the length of head; when depressed the tips reaching past half caudal; the membrane behind the last ray adnate to body.

Anal originating below fourth dorsal ray, high, the longest rays $1\frac{1}{2}$ in head; the rays reaching a little beyond caudal base when depressed; the membrane slightly adnate to body. Ventral long, slightly less than the length of head, nearly not reaching origin of anal.

In female, dorsal separated from each other by a very small interspace. Dorsal spine flexible, much shorter than in male, the longest spine $2\frac{1}{2}$ in head; the membrane scalloped between spines, adnate to body posteriorly. Second dorsal lower than in male, the longest ray about 2 in head, the rays nearly reaching caudal base when depressed; the membrane scalloped between rays, adnate to body posteriorly. Anal originating below second or third dorsal ray, high, $2\frac{1}{2}$ in head, not reaching caudal base when depressed. Ventral shorter $1\frac{2}{3}$ in head, nearly not reaching to vent.

Pectoral extending above third anal ray in male, a little beyond origin of anal in female. The posterior margin rounded, its lower margin procurent. Caudal rounded when spread out, truncate when closed.

Color in formalin: Male brownish gray, belly and breast whitish. Lower part of sides with several rows of whitish spots, some of the lower ones being fused together here and there. Axil with larger white spots, giving it an appearance like that of the toad's belly. Head dark without markings, the membrane joining maxillary to premaxillary whitish. Lips and chin dusky, the latter faintly speckled. First dorsal dark brown, margin of the membrane between spines whitish, 5 whitish spots on the membrane between spines near base; two of them between the third and fifth spines, elliptical in form, long diameter of the spots being along the spines and much longer than eye. Second dorsal dusky, with about 5 broad and darker lines, which at places fuse together. Anal similar to second dorsal in marking, but the lines a little broader than those on the latter. Pectoral and ventral similar to anal in marking; pectoral blackish at base, with 4 darker bands; the lines on ventral reticulate by frequently anastomosing. Caudal whitish with 3 darker wavy bands.

Female brownish gray or dark brown above, lighter below, with markings fainter than in male. Chin, breast and belly whitish. Whitish

spots on the lower parts of sides fainter than in male, sometimes blotch-like in form by running together. All the fins marked as in male, but more faintly.

The species is named in honor of Dr. Ijima.

The type, a male, 21 cm. long without caudal, obtained at the mouth of the Susuya River on May 15th, is preserved in the museum collection, numbered 1388.

Measurements of the species (in cm.).

Specimen	A. (Type).	B.	C.	D.
Locality	mouth of the Susuya R.	mouth of the Susuya R.	mouth of the Susuya R.	a point 11 hiro deep off Chipesani
Date	May 15	May 15	May 15	Aug. 15
Sex	♂	♀	♀	♀
Length exclusive of caudal	21.0	16.4	21.0	16.5
Height of body... ..	4.8	4.0	4.3	3.5
Height of caudal peduncle	1.0	0.9	1.1	1.0
Head (measured to tip of opercular flap) ...	6.9	6.1	7.4	5.4
Breadth of head (on the angles formed by upper preop. spine)	7.8	5.9	7.4	4.7
Eye	1.6	1.2	1.4	1.2
Interorbital	1.5	1.2	1.5	1.0
Snout... ..	1.6	1.6	1.4	1.2
Maxillary	3.6	2.8	3.5	2.5
First preopercular spine	1.1	1.1	1.1	0.95

Specimen	A. (Type).	B.	C.	D.
Second preopercular spine	0.7	0.65	0.65	0.7
First spine of first dorsal	3.5	1.8	2.2	2.3
Second spine of first dorsal	3.6	2.1	2.5	2.5
Third spine of first dorsal	3.6	2.3	2.7	2.5
Fourth spine of first dorsal	3.6	2.0	2.7	2.2
Fifth spine of first dorsal... ..	3.6	2.0	2.2	2.1
Penultimate spine of first dorsal	1.2	1.2	1.0	0.8
Last spine of first dorsal... ..	0.9	0.6	0.65	0.6
First ray of second dorsal	2.6	2.3	2.0	2.0
Second ray of second dorsal	5.5	2.8	3.2	2.7
Longest ray of second dorsal	7.8 (6th)	3.1 (6th)	4.0 (7th)	3.2 (8th)
Last ray of second dorsal	4.3	1.4	2.0	1.8
First ray of anal	2.0	1.5	1.8	1.3
Longest ray of anal	4.0 (7th to 9th)	2.5 (7th)	2.8 (7th)	2.3 (6th to 7th)
Last ray of anal	2.2	1.6	1.8	1.3
Ventral	6.0	3.5	3.7	3.0
Pectoral	7.0	4.7	5.9	4.4
D.	IX-14	VIII-14	IX-13	IX-14
A.	12	12	12	13
P.	16	17	16	16
V.	1.3	1.3	1.3	1.3

26. *Myoxocephalus nivosus* (Herzenstein).

Two specimens from Korsakoff (Aug. 19) and Lososei Bay (May 25).

27. *Myoxocephalus raninus* Jordan and Starks.

Numerous specimens from Korsakoff (Aug. 20), Lake Busse (Aug. 9), Chipesani (July 31—Sept. 18) and Lososei Bay (May 25).

28. *Myoxocephalus jaok* (Cuvier and Valenciennes).

One specimen. Exact locality not given on the label.

Total length without caudal 42 cm.; height of body 7.2 cm.; height of caudal peduncle 2.2 cm.; head 17.5 cm.; width of head 10.5 cm.; eye cavity 3 cm.; interorbital 2.6 cm.; snout 4.1 cm. D. IX—16; A. 14; V. I, 3; P. 17.

Dorsals dusky, with faint marking; caudal with 3 cross bands formed of spots; anal with 5 oblique dark bands.

29. *Ceratocottus namiyei* Jordan and Starks.

One specimen from Korsakoff (Aug. 20).

Total length exclusive of caudal 18 cm. D. VIII—14; A. 12; P. 17; V. I, 3.

30. *Ocynectes maschalis* Jordan and Starks.

One specimen. Exact locality not given on the label.

Total length exclusive of caudal 8 cm. D. IX—17; A. 14; P. 15; V. I, 2; pores in lateral line 30 to 35.

Both lips blackish, the lower lip being rather creamy near corner. Anal with oblique bands as in dorsal. 3 dark blotches on the upper part of body beneath soft dorsal.

31. *Hemitripterus villosus* (Pallas).

Three specimens from Lososei Bay and Airop.

Specimen	A.	B.	C.
Locality	Lososei Bay	Airop	Airop
Date	May 26	June 26	June 17
D.	IV—XIV—11	IV—XIV—12	IV—XIV—12
A.	14	15	14
P.	19	21	19
V.	1,3	1,3	1,3

32. *Hemilepidotus gilberti* Jordan and Starks.

One specimen for Airop (June 16).

D. III, VIII, 22; A. 18; P. 17.

33. *Blepsias draciscus* Jordan and Starks.

Numerous specimens from Chipesani (Aug. 1) and Lake Busse (Sept. 18).

D. VII or VIII—22 or 24; A. 19 to 20; P. 13 to 14; V. I, 3.

Family Agonidæ.

34. *Brachyopsis rostratus* (Tilesius).

Loc. Jap. name: Shichirō.

Numerous specimens from Lososei Bay (May 23—June 20), Pervaya Padj (June 16; June 17) and Lake Busse (Aug. 9).

35. *Tilesina gibbosa* Schmidt.

One specimen from Lososei Bay (June 29).

Length exclusive of caudal 17 cm.; D. XIX—7; A. 26.

36. *Podothecus accipiter* Jordan and Starks.

Numerous specimens from Lososei Bay (June 29). D. VIII—8; A. 10.

37. *Agonomalus jordani* Schmidt.

Three specimens from a point 11 hiro deep off Chipesani (Aug. 15) and from Lososei Bay (June 21).

D. VIII—7; A. 13 to 14; P. 11 to 12; C. 11.

38. *Occa dodecaedron* (Tilesius).

One specimen from Chipesani (July 31).

Family Cyclopteridæ.

39. *Eumicrotremus orbis* (Günther).

One specimen from Ftaraya Padj (July 14). D. V—8; A. 9.

Family Liparididæ.

40. *Liparis agassizi* Putnam.

Loc. Jap. name: Donkō.

Numerous specimens from Chipesani (July 31—Aug. 14) and Tretiya Padj (June 28).

D. 41 to 42; A. 33 to 34; P. 38; C. 14.

Family Trichodontidæ.

41. *Arctoscopus japonicus* (Steindachner).

Loc. Jap. name: Hatahata, Hagotoko.

Numerous specimens from Chipesani (July 31; Aug. 1).

D. IX—12; A. 31.

Family Gobiidæ.

42. *Chænogobius macrognathos* (Bleeker).

Numerous specimens from Chipesani (Aug. 23), Lososei Bay (May 22) and Lake Busse (Aug. 31).

D. VI to VII—11 to 12; A. 11 to 12; P. 19.

43. *Glossogobius brunneus* (Schlegel).

One specimen from Lake Chipesani (July 26).

Family Blennidæ.

44. *Neozarces steindachneri* Jordan and Snyder.

Four specimens from Lake Busse (Aug. 31).

45. *Pholis pictus* (Kner).

Loc. Jap. name: Gazi.

Five specimens from Lososei Bay (June 20).

46. *Opisthocentrus ocellatus* (Tilesius).

Numerous specimens from Chipesani (July 31; Aug. 1), Lake Busse (Aug. 9) and Lososei Bay (June 23).

47. *Abryois azumæ* Jordan and Snyder.

Numerous specimens from Lake Busse (Aug. 9), Lososei Bay (June 19; June 23) and Pervaya Padj (June 16).

D. LX to LXIII; A. II to III, 38.

Anterior part of dorsal fin with, sometimes without, one or two blackish spots.

48. *Lumpenus fowleri* Jordan and Snyder.

Loc. Jap. name: Gazi.

Numerous specimens from Lososei Bay (May 23; June 20).

D. LXXII to LXXIV; A. II, 45 to 47; P. 14.

49. *Dinogunellus grigorjewi* (Herzenstein).

One specimen from Seraroko (June 22).

Total length without caudal 41 cm.; head 7.5 cm.; height of body 4.7 cm.; height of caudal peduncle 1.7 cm.; snout 1 cm.; eye 0.6 cm.; interorbital 1 cm.

50. *Alectrias benjamini* Jordan and Snyder.

One specimen from a point 11 hiro deep off Chipesani (Aug. 15).

Total length without caudal 6.2 cm. D. LX; A. 44.

51. *Anarichas lepturus* Bean.

One specimen from Lososei Bay (June 1).

Total length exclusive of caudal 80 cm.; head 18 cm.; eye 1.9 cm.; interorbital 4.5 cm.; snout 4.3 cm.; maxillary 9.9 cm.; caudal 5.8 cm.

D. 81; A. 54.

Family Zoarcidæ.

52. *Zoarces elongatus* Kner.

Loc. Jap. name: Gazi.

Numerous specimens from Lososei Bay (May 25—June 20).

53. *Lycodes perspicillum* Kröyer.

One specimen from off Chipesani (Sept. 3).

Total length exclusive of caudal 72 cm.; height of body 10.4 cm.; head 18 cm.; eye 1.8 cm.; interorbital 2.5 cm.; snout 5.9 cm.; pectoral 9.3 cm.; base of pectoral 4.5 cm.; ventral 1.4 cm. D. 94; A. 74; P. 20; V, I, 2; C. 14.

Color in formalin: Body with 12 cross bands, the bands extending from near margin of dorsal to near median line of sides; the last band on the caudal base. No band on lower parts of body. A band on nape in front of dorsal, extending to opercular flap; a spot on the occipital part; no spots around eyes; no marking on anal and caudal. Body and fins, except pectoral and ventral, with sparse, scattered, small and concealed scales over which the skin shows whitish spots.

Family Gadidæ.

54. *Gadus macrocephalus* Tilesius.

Loc. Jap. name: Tara, Taranoko.

Numerous specimens from Chipesani (July 31), Korsakoff (Sept. 13), Lake Busse, Nayoro (June 18), Airop (June 17) and Lososei Bay (May 25—June 23).

55. *Theragra chalcogramma* (Pallas).

Two specimens. Exact locality not given on the label.

Family Pleuronectidæ.

56. *Paralichthys coreanicus* (Schmidt).

Loc. Jap. name: Yanagida karei.

Two specimens from Korsakoff (Aug. 20).

D. 80 or 86; A. 64 or 68; P. 10 to 12; V. 6.

57. *Protopsetta herzensteini* (Schmidt).

Three specimens from Korsakoff (Aug. 20) and from a point 11 hiro deep off Chipesani (Aug. 15).

D. 71 or 74; A. 55 or 59.

58. *Limanda aspera* (Pallas).

Four specimens from Nayoro (June 18).

D. 68 ; A. 52 to 53 ; P. 12 to 13 ; V. 6.

59. *Limanda iridorum* Jordan and Starks.

One specimen from Lake Chipesani (Aug. 23).

60. *Pleuronectes quadrituberculatus* Pallas.

Loc. Jap. name : Ishi karei.

Two specimens from Korsakoff (Aug. 20).

61. *Liopsetta pinnifasciata* (Kner).

Numerous specimens from Lososei Bay (May 25 ; June 16) and Lake Busse (Aug. 9).

D. 57 or 61 to 63 ; A. I, 41 or 45 to 47.

62. *Platichthys stellatus* (Pallas).

Loc. Jap. name : Same karei.

Numerous specimens from Chipesani (Aug. 6, Aug. 23), Lake Busse (Aug. 9 ; Aug. 31), mouth of the Susuya River (May 15) and Nayoro (June 18).

D. 56 ; A. 41 to 42.

63. *Microstomus stelleri* Schmidt.

Loc. Jap. name : Yanagida karei.

Three specimens from Korsakoff (Aug. 20).

D. 89 or 93 ; A. 76 or 81 ; P. 12 ; V. 6.

Explanation of Pl. IX.

Figs. 1, 2. *Porocottus nigrescens*, n. sp.

About $\frac{2}{3}$ natural size.

Figs. 3, 4. *Porocottus ijimai*, n. sp.

Male (type). About $\frac{2}{3}$ natural size.
